SEQUENCE LISTING

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Leung, Yun Chung
Lo, Wai Hung

<120> PHARMACEUTICAL PREPARATION AND METHOD OF
TREATMENT OF HUMAN MALIGNANCIES WITH ARGININE DEPRIVATION

<130> B001.001.NPRUS

<140> 10/518,223
<141> 2004-12-15

<150> PCT/GB2003/002665
<151> 2003-06-20

<150> PCT/CN02/00635
<151> 2002-09-09

<150> 60/390,757
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<160> 9

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<213> Homo sapiens

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attaaaaatt tgctggcatt aaaaataagc acacttacat aagcccccat acatagagtg 1920
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<210> 2
<211> 990
<212> DNA
<213> Artificial Sequence

<220>

<223> Chimeric DNA sequence encoding human arginase I
      and an N-terminal histidine tag

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gaa ggc cct aca gta ttg aga aag gct ggt ctg ctt gag aaa ctt aaa   144
gaa caa gag tgt gat gtg aag gat tat ggg gac ctg ccc ttt gct gac   192
atc cct aat gac agt ccc ttt caa att gtg aag aat cca agg tct gtg   240
gga aaa gca agc gag cag ctg gct ggc aag gtg gca caa gtc aag aag   288
aac gga aga atc agc ctg gtg ctg ggc gga gac cac agt ttg gca att   336
gga agc atc tct ggc cat gcc agg gtc cac cct gat ctt gga gtc atc   384
tgg gtg gat gct cac act gat atc aac act cca ctg aca acc aca agt   432
gga aac ttg cat gga caa cct gta tct ttc ctc ctg aag gaa cta aaa   480
gga aag att ccc gat gtg cca gga ttc tcc tgg gtg act ccc tgt ata   528
tct gcc aag gat att gtg tat att ggc ttg aga gac gtg gac cct ggg   576
gaa cac tac att ttg aaa act cta ggc att aaa tac ttt tca atg act   624
gaa gtg gac aga cta gga att ggc aag gtg atg gaa gaa aca ctc agc   672
tat cta cta gga aga aag aaa agg cca att cat cta agt ttt gat gtt   720
gac gga ctg gac cca tct ttc aca cca gct act ggc aca cca gtc gtg   768
gga ggt ctg aca tac aga gaa ggt ctc tac atc aca gaa gaa atc tac   816
aaa aca ggg cta ctc tca gga tta gat ata atg gaa gtg aac cca tcc   864
ctg ggg aag aca cca gaa gaa gta act cga aca gtg aac aca gca gtt   912
gca ata acc ttg gct tgt ttc gga ctt gct cgg gag ggt aat cac aag   960
cct att gac tac ctt aac cca cct aag taa   990

<210> 3
<211> 329
<212> PRT
<213> Artificial Sequence

<220>
<223> Chimeric AA sequence of human arginase I and an
      N-terminal histidine tag

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            20   25   30
Glu Gly Pro Thr Val Leu Arg Lys Ala Gly Leu Leu Glu Lys Leu Lys
        35   40   45
Glu Gln Glu Cys Asp Val Lys Asp Tyr Gly Asp Leu Pro Phe Ala Asp
    50   55   60
Ile Pro Asn Asp Ser Pro Phe Gln Ile Val Lys Asn Pro Arg Ser Val
65   70   75   80
Gly Lys Ala Ser Glu Gln Leu Ala Gly Lys Val Ala Gln Val Lys Lys
                85   90   95
Asn Gly Arg Ile Ser Leu Val Leu Gly Gly Asp His Ser Leu Ala Ile
            100   105   110
Gly Ser Ile Ser Gly His Ala Arg Val His Pro Asp Leu Gly Val Ile
        115   120   125
Trp Val Asp Ala His Thr Asp Ile Asn Thr Pro Leu Thr Thr Thr Ser
    130   135   140
Gly Asn Leu His Gly Gln Pro Val Ser Phe Leu Leu Lys Glu Leu Lys
145   150   155   160
Gly Lys Ile Pro Asp Val Pro Gly Phe Ser Trp Val Thr Pro Cys Ile
                165   170   175
Ser Ala Lys Asp Ile Val Tyr Ile Gly Leu Arg Asp Val Asp Pro Gly
            180   185   190
Glu His Tyr Ile Leu Lys Thr Leu Gly Ile Lys Tyr Phe Ser Met Thr
        195   200   205
Glu Val Asp Arg Leu Gly Ile Gly Lys Val Met Glu Glu Thr Leu Ser
    210   215   220
Tyr Leu Leu Gly Arg Lys Lys Arg Pro Ile His Leu Ser Phe Asp Val
225   230   235   240
Asp Gly Leu Asp Pro Ser Phe Thr Pro Ala Thr Gly Thr Pro Val Val
                245   250   255
Gly Gly Leu Thr Tyr Arg Glu Gly Leu Tyr Ile Thr Glu Glu Ile Tyr
            260   265   270
Lys Thr Gly Leu Leu Ser Gly Leu Asp Ile Met Glu Val Asn Pro Ser
        275   280   285
Leu Gly Lys Thr Pro Glu Glu Val Thr Arg Thr Val Asn Thr Ala Val
    290   295   300
Ala Ile Thr Leu Ala Cys Phe Gly Leu Ala Arg Glu Gly Asn His Lys
305   310   315   320

Pro Ile Asp Tyr Leu Asn Pro Pro Lys
325

<210> 4
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 6x Histidine tag

<400> 4
Met His His His His His His
1 5

<210> 5
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer sequence

<400> 5
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<210> 6
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer sequence

<400> 6
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<210> 7
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer sequence

<400> 7
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<210> 8
<211> 969
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(969)

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Lys Gly Gln Pro Arg Gly Gly Val Glu Glu Gly Pro Thr Val Leu Arg
20 25 30

aag gct ggt ctg ctt gag aaa ctt aaa gaa caa gag tgt gat gtg aag 144
Lys Ala Gly Leu Leu Glu Lys Leu Lys Glu Gln Glu Cys Asp Val Lys
35 40 45

gat tat ggg gac ctg ccc ttt gct gac atc cct aat gac agt ccc ttt 192
Asp Tyr Gly Asp Leu Pro Phe Ala Asp Ile Pro Asn Asp Ser Pro Phe
50 55 60

caa att gtg aag aat cca agg tct gtg gga aaa gca agc gag cag ctg 240
Gln Ile Val Lys Asn Pro Arg Ser Val Gly Lys Ala Ser Glu Gln Leu
65 70 75 80

gct ggc aag gtg gca caa gtc aag aag aac gga aga atc agc ctg gtg 288
Ala Gly Lys Val Ala Gln Val Lys Lys Asn Gly Arg Ile Ser Leu Val
85 90 95

ctg ggc gga gac cac agt ttg gca att gga agc atc tct ggc cat gcc 336
Leu Gly Gly Asp His Ser Leu Ala Ile Gly Ser Ile Ser Gly His Ala
100 105 110

agg gtc cac cct gat ctt gga gtc atc tgg gtg gat gct cac act gat 384
Arg Val His Pro Asp Leu Gly Val Ile Trp Val Asp Ala His Thr Asp
115 120 125

atc aac act cca ctg aca acc aca agt gga aac ttg cat gga caa cct 432
Ile Asn Thr Pro Leu Thr Thr Thr Ser Gly Asn Leu His Gly Gln Pro
130 135 140

gta tct ttc ctc ctg aag gaa cta aaa gga aag att ccc gat gtg cca 480
Val Ser Phe Leu Leu Lys Glu Leu Lys Gly Lys Ile Pro Asp Val Pro
145 150 155 160

gga ttc tcc tgg gtg act ccc tgt ata tct gcc aag gat att gtg tat 528
Gly Phe Ser Trp Val Thr Pro Cys Ile Ser Ala Lys Asp Ile Val Tyr
165 170 175

att ggc ttg aga gac gtg gac cct ggg gaa cac tac att ttg aaa act 576
Ile Gly Leu Arg Asp Val Asp Pro Gly Glu His Tyr Ile Leu Lys Thr
180 185 190

cta ggc att aaa tac ttt tca atg act gaa gtg gac aga cta gga att 624
Leu Gly Ile Lys Tyr Phe Ser Met Thr Glu Val Asp Arg Leu Gly Ile
195 200 205

ggc aag gtg atg gaa gaa aca ctc agc tat cta cta gga aga aag aaa 672
Gly Lys Val Met Glu Glu Thr Leu Ser Tyr Leu Leu Gly Arg Lys Lys
210 215 220

agg cca att cat cta agt ttt gat gtt gac gga ctg gac cca tct ttc 720
Arg Pro Ile His Leu Ser Phe Asp Val Asp Gly Leu Asp Pro Ser Phe
225 230 235 240

aca cca gct act ggc aca cca gtc gtg gga ggt ctg aca tac aga gaa 768
Thr Pro Ala Thr Gly Thr Pro Val Val Gly Gly Leu Thr Tyr Arg Glu
245 250 255

ggt ctc tac atc aca gaa gaa atc tac aaa aca ggg cta ctc tca gga 816
Gly Leu Tyr Ile Thr Glu Glu Ile Tyr Lys Thr Gly Leu Leu Ser Gly
260 265 270

tta gat ata atg gaa gtg aac cca tcc ctg ggg aag aca cca gaa gaa 864
Leu Asp Ile Met Glu Val Asn Pro Ser Leu Gly Lys Thr Pro Glu Glu
275 280 285

gta act cga aca gtg aac aca gca gtt gca ata acc ttg gct tgt ttc 912
Val Thr Arg Thr Val Asn Thr Ala Val Ala Ile Thr Leu Ala Cys Phe
290 295 300

gga ctt gct cgg gag ggt aat cac aag cct att gac tac ctt aac cca 960
Gly Leu Ala Arg Glu Gly Asn His Lys Pro Ile Asp Tyr Leu Asn Pro
305 310 315 320

cct aag taa 969
Pro Lys *

<210> 9
<211> 322
<212> PRT
<213> Homo sapiens

<400> 9
Met Ser Ala Lys Ser Arg Thr Ile Gly Ile Ile Gly Ala Pro Phe Ser

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            20                  25                  30
Lys Ala Gly Leu Leu Glu Lys Leu Lys Glu Gln Glu Cys Asp Val Lys
        35                  40                  45
Asp Tyr Gly Asp Leu Pro Phe Ala Asp Ile Pro Asn Asp Ser Pro Phe
    50                  55                  60
Gln Ile Val Lys Asn Pro Arg Ser Val Gly Lys Ala Ser Glu Gln Leu
65                  70                  75                  80
Ala Gly Lys Val Ala Gln Val Lys Lys Asn Gly Arg Ile Ser Leu Val
                85                  90                  95
Leu Gly Gly Asp His Ser Leu Ala Ile Gly Ser Ile Ser Gly His Ala
            100                 105                 110
Arg Val His Pro Asp Leu Gly Val Ile Trp Val Asp Ala His Thr Asp
        115                 120                 125
Ile Asn Thr Pro Leu Thr Thr Thr Ser Gly Asn Leu His Gly Gln Pro
    130                 135                 140
Val Ser Phe Leu Leu Lys Glu Leu Lys Gly Lys Ile Pro Asp Val Pro
145                 150                 155                 160
Gly Phe Ser Trp Val Thr Pro Cys Ile Ser Ala Lys Asp Ile Val Tyr
                165                 170                 175
Ile Gly Leu Arg Asp Val Asp Pro Gly Glu His Tyr Ile Leu Lys Thr
            180                 185                 190
Leu Gly Ile Lys Tyr Phe Ser Met Thr Glu Val Asp Arg Leu Gly Ile
        195                 200                 205
Gly Lys Val Met Glu Glu Thr Leu Ser Tyr Leu Leu Gly Arg Lys Lys
    210                 215                 220
Arg Pro Ile His Leu Ser Phe Asp Val Asp Gly Leu Asp Pro Ser Phe
225                 230                 235                 240
Thr Pro Ala Thr Gly Thr Pro Val Val Gly Gly Leu Thr Tyr Arg Glu
                245                 250                 255
Gly Leu Tyr Ile Thr Glu Glu Ile Tyr Lys Thr Gly Leu Leu Ser Gly
            260                 265                 270
Leu Asp Ile Met Glu Val Asn Pro Ser Leu Gly Lys Thr Pro Glu Glu
        275                 280                 285
Val Thr Arg Thr Val Asn Thr Ala Val Ala Ile Thr Leu Ala Cys Phe
    290                 295                 300
Gly Leu Ala Arg Glu Gly Asn His Lys Pro Ile Asp Tyr Leu Asn Pro
305                 310                 315                 320
Pro Lys
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